

Notice of Allowability

Application No.

09/605,657

Examiner

Hung Henry V Nguyen

Applicant(s)

SINGH ET AL.

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Interview conducted 7/6/03.
2. ☒ The allowed claim(s) is/are 1-8, 10, 14-19, 21-38 and 40-44.
3. ☒ The drawings filed on 28 June 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**


7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |


HENRY HUNG NGUYEN
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Darling and Kamal Goudjiil on July 6, 2003.

The application has been amended as follows:

IN THE CLAIMS:

Please cancel claim 39.

Please enter amended claim 30 as follows:

Claim 30 (Amended): A lithographic projection apparatus, comprising:

- an illumination system constructed and arranged to supply a projection beam of radiation;
- a first object table provided with a first object holder constructed and arranged to hold a mask;
- a second object table provided with a second object holder constructed and arranged to hold a substrate;
- a projection system constructed and arranged to utilize said radiation to image an irradiated portion of the mask onto a target portion of the substrate; and
- at least one of said illumination system and projection system having an optical element with a surface on which radiation is incident and a capping layer covering said surface, said capping layer being formed of a relative inert material,

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wherein said optical element is a reflector having a multilayer reflective coating on which said capping layer is provided; and

wherein said relative inert material is selected from the group consisting of: diamond-like carbon (C), boron-nitride (BN), boron carbide (B₄C), silicon nitride (Si₃N₄), silicon carbide (SiC), B, Pd, Ru, Rh, Au, MgF₂, LiF, C₂F₄, TiN and compounds and alloys thereof.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance: Claims 1-8, 10, 14-16, 21-29, have been found to be allowable since the prior art of record either alone or in combination, neither discloses nor makes obvious the combination of a lithographic projection apparatus using a relative inert material selected from a specific group as recited in the instant claims, as a capping layer. Applicant's arguments filed June 11, 2003 are persuasive (for example, see page 6, line 1-28; page 7, line 16-29).

Claims 41-44 have been allowed with the reasons set forth in the previous office action.

As to claims 30-38 and 40, the prior art of record fails to suggest a lithographic apparatus where a reflector has a multilayer reflecting coating having only a capping layer, and the capping layer being formed of a relatively inert material selected from the group consisting of: diamond-like carbon (C), boron-nitride (BN), boron carbide (B₄C), silicon nitride (Si₃N₄), silicon carbide (SiC), B, Pd, Ru, Rh, Au, MgF₂, LiF, C₂F₄, TiN and compounds and alloys thereof.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

hvn
July 7, 2003



HENRY HUNG NGUYEN
PRIMARY EXAMINER